

Appl. No. 10/629,374

Amdt. Dated August 18, 2005

Reply to Office Action of May 20, 2005

AMENDMENTS TO THE DRAWINGS

Applicant has attached a replacement sheet of drawings including a revised FIG. 1A and Fig. 1B.

The attached sheet of drawings includes changes to Fig. 1A and Fig. 1B. This sheet, which includes Figs. 1A-2B, replaces the original sheet including Figs. 1A-2B. In Figs. 1A and 1B, the previously omitted "Prior Art" label has been added.

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REMARKS

Drawings

The Examiner stated that FIG's 1A and 1B should be designated by a legend such as "Prior Art" because only that which is old is illustrated.

Applicant has submitted a replacement sheet of drawings including a revised FIG. 1A and 1B which are now designated as Prior Art.

35 U.S.C. § 112 Rejections

The Examiner rejected claim 11 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The Examiner stated that claim 11 is incomplete because essential structural cooperative relationships between elements are omitted. The Examiner further stated that the omitted structural cooperative relationships are: independent claim 6 requires leads to be located between a wiring board and a heat sink, which is contradictive to the limitations of claim 11 where said leads are claimed to be attached to an upper surface of the wire board facing away from the heat sink.

Claim 11 has been appropriately amended and the limitation requiring that the upper surface of the wiring board face away from the heat sink has been deleted.

Applicant, accordingly, respectfully requests withdrawal of the rejection of claim 11 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

35 U.S.C. § 102 Rejections

The Examiner has rejected claims 1-11 and 16-17 under 35 U.S.C. § 102(e) as being anticipated by Hochstein.

Claims 1, 6, and 16 include the electrical leads being thermally coupled or connected to both the heat sink and the wiring board. Specifically, claim 1 includes the limitations "at least one electrical lead extending from each of said third plurality of

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LEDs to at least one of said second plurality of contact pads" and "a heat sink thermally coupled to said third surface of each of said third plurality of LEDs and the at least one electrical lead." Claim 6 includes the limitation "a wiring board with a through-hole for receiving the device such that the bottom of the device is in thermal contact with the heat sink, the top of the device protrudes through the wiring board, and the leads of the device are positioned between and connected to a portion of the wiring board and the heat sink." Claim 16 includes the limitation "placing the lower surface of the wiring board in close proximity to the heat sink such that the bottom portion of the device is in thermal contact with the heat sink and the electrical leads of the device are positioned between and connected to a portion of the wiring board and the heat sink."

Hochstein does not disclose the electrical leads being thermally coupled or connected to both the heat sink and the wiring board. Hochstein discloses a heat dissipater 30 of a metallic or metal material is disposed in parallel relationship to a circuit board 12 (Abstract). As illustrated in FIG's 1-3, the heat dissipater 30 is included in an assembly with an electrically insulating circuit board 12 having opposed first and second surfaces 14 and 16 (column 2, lines 43 through 44). The assembly includes a plurality of LEDs 20, 22, and 24, each having a pair of electrical leads 26. As clearly illustrated in FIG's 1 and 2, the electrical leads 26 are thermally coupled to only the circuit board 18. As illustrated in FIG. 3, the electrical leads 26 are positioned between the circuit board 12 and the heat dissipater 30. However, the electrical leads are thermally coupled to only the circuit board 12 and not the heat dissipater 30, as a gap clearly lies between the electrical leads 26 and the heat dissipater 30. Hochstein thus discloses an electronic assembly including a plurality of LEDs, with electrical leads, a circuit board, and a heat dissipater, where the electrical leads on the LEDs are connected only to the circuit board. Hochstein does not disclose electrical leads being thermally coupled or connected to both the heat sink and the wiring board.

Therefore, claims 1, 6, and 16 are not anticipated by Hochstein because claims 1, 6, and 16, include limitations that are not disclosed in Hochstein.

Claims 2 through 5, 6 through 11, and 17 are dependent on either claim 1, 6, or claim 16 and should be allowable for the same reasons as claims 1, 6, and 16 stated

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above.

Applicant, accordingly, respectfully requests withdrawal of the rejections of claims 1 through 11 and 16 through 17 under 35 U.S.C. § 102(e) as being anticipated by Hochstein.

35 U.S.C. § 103 Rejections

The Examiner has rejected claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Hochstein.

Claim 18 is dependent on claim 16 and should be allowable for the same reasons as claim 16 stated above.

Applicant, accordingly, respectfully requests withdrawal of the rejection of claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Hochstein.

Allowable Subject Matter

Applicant has noted, with appreciation, that the Examiner indicated that claims 12 through 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

Based on the above, independent Claims 1, 6, and 16 are patentable over the citations of record. The dependent claims are also submitted to be patentable for the reasons given above with respect to the independent claims and because each recite features which are patentable in its own right. Individual consideration of the dependent claims is respectfully solicited.

The other art of record is also not understood to disclose or suggest the inventive concept of the present invention as defined by the claims.

Hence, Applicant submits that the present application is in condition for allowance. Favorable reconsideration and withdrawal of the objections and rejections set forth in the above-noted Office action, and an early Notice of Allowance are requested.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

If for some reason Applicant has not paid a sufficient fee for this response, please consider this as authorization to charge Ingrassia, Fisher & Lorenz, Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated: 8/18/05

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